



OHIO BIOSOLIDS RESEARCH PARTNERS



Research team needs state and local agencies/organizations to refer allegations of health issues, odor, or quality of life concerns from the land application of biosolids and other soil amendments such as manure.

Request for statewide partners: For this project to be successful, we need agencies, individuals and organizations to refer allegations of health issues, odor, or quality of life concerns from the land application of biosolids or manure to the following website:

www.ohiobiosolidsresearchpartners.org/franklincounty/.

Simply ask the person complaining if they wouldn't mind taking part in a survey about their concerns. When you register a complaint, we will need name of the person complaining, address, and phone number, type of complaint and general location of the biosolids or manure that is land applied. We ask that you do not e-mail these complaints to the investigators directly because of confidentiality issues.

Principle Investigators and Organizations:



COLLEGE OF

Public Health

Paul Rosile, MPH, RS

Franklin County, Ohio, Board of Health (FCBH)

E-mail: parosile@franklincountyohio.gov

Song Liang, PhD

The OSU College of Public Health (OSUCPH)

E-Mail: sliang@cph.osu.edu

Ohio Biosolids Facts

- ◆ In Ohio there are > 10,000 biosolids land application sites approved by the Ohio Environmental Protection Agency (OEPA),
- ◆ 269 of 1,746 Ohio generators reported land applying Class B biosolids

Points of interest

- ◆ The Water Environment Research Foundation (WERF) approved funding to the FCBH and The OSUCPH to improve investigations of complaints from neighbors from the land application of biosolids and other soil amendments such as manure.
- ◆ Complaints will be investigated from throughout the state of Ohio until October, 2010.
- ◆ We need your help by referring complaints to the project via a secure portal.
- ◆ Ask the callers permission to refer their complaint to the research team (this is not a formal consent).
- ◆ Record the complainant's name, address, phone number, type of complaint and general location of the biosolids or manure that is land applied. This information is needed when you submit the complaint on the portal complaint form.
- ◆ To refer a complaint you will first need to register to receive a unique password.
- ◆ A member of the research team will contact the caller and obtain verbal consent before scheduling an interview.
- ◆ Confidentiality of caller is assured
- ◆ We will test a survey instrument on the complainant, which will take approximately 1 hour.
- ◆ A \$50 incentive for participation is offered to the complainant.

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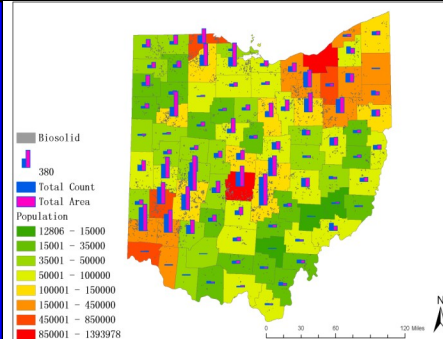
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Ohio Biosolids Facts

- ◆ In 2006, Ohio generators land applied 91,580 dry tons of Class B biosolids
- ◆ More Class B biosolids are land applied in Southwest and Central Ohio (see Figure 1. below)
- ◆ Over 10 million tons of **manure** are produced each year in Ohio by Concentrated Animal Feeding Operations (CAFO'S)

Figure 1.
Ohio Class B biosolids land application sites per County by area and count



Pilot Testing: Epidemiologic Surveillance and Investigation of the Illness Reported by Neighbors of Biosolids Land Application and other Soil Amendments

Executive Summary

Since the 1970's the Environmental Protection Agency (EPA) and the wastewater treatment industry have been faced with meeting the requirements of the Clean Water Act as it pertains to sewage sludge, defined as "the solid, semi solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage" and biosolids, "sewage sludge that has been treated to meet the land application standards in Part 503 rule or any other equivalent land application standards." Ohio's definition (Ohio Administrative Code 3745-40-01) for biosolids is "sewage sludge that has been treated for beneficial use." In the United States, over seven million tons (dry weight) of sewage sludge are produced each year and the majority of this material is land applied to fertilize crops or for soil enrichment. There have been complaints in various pockets of the United States over the application of biosolids. While not numerous in terms of total acreage applied, the complaints which range from nuisance to adverse health effects, are of great concern and need to be investigated.

This project is the second phase of a larger project funded by WERF to develop and test a protocol to investigate and collect data on reports of health effects from neighbors of land application sites. With the support of the EPA and WERF, the research team will pilot test a 5-step investigation protocol developed during Phase I of this project, and deliver a refined protocol back to WERF at the end of the project. The protocol includes the administration of three questionnaires to:

- ◆ neighbors of land application sites alleging health effects
 - ◆ biosolids generators
 - ◆ biosolids appliers

Two additional investigation forms about the land application site are also completed. The first form identifies the location of the site by GPS or other descriptions; and the second investigation form records site characteristics such as slope, soil type, drainage patterns, buffer zones, and compliance with rules.

The research team will field test the protocol over the length of the project until October, 2010. A scientific evaluation will be performed by a credible subcontractor on the administration of the questionnaires to determine if any validity or reliability problems exist either with the structure of the questionnaire or the methods of administration. The team will use the results of this evaluation to modify the protocol so that a broad base of potential end-users and stakeholders can use it for future data collection throughout the country. The three remaining deliverables of the project are:

- ◆ an outreach and implementation communication plan
- ◆ a guidance document that suggests study designs for future research, based upon the clues obtained from this project
- ◆ a final report to be published by WERF

The success of the project will be measured by the sustainable use of the investigation protocol in Ohio and nationally to collect the quality and quantity of data on allegations of health effects and other related data, in order to more fully understand the etiology of health effects and biosolids that are land applied by continued well designed and sound research.



Transfer of biosolids to modified tanker truck for injection



Biosolids injection equipment



Close-up of injection site